

Brussels, 12<sup>th</sup> September 2012

## **T&D Europe<sup>1</sup> specific comments on ENTSO-E Demand Connection Code: Potential impact for installed and new T&D equipment in the power grid**

The T&D Europe concern is especially regarding potentially increasing risk and violation of existing European and global standards.

There is a critical issue of extending the requirements beyond existing standards by the new network code. This in fact could lead to severe failure risks to the power supply system.

### **General comments:**

- Ageing effects for equipment may increase if temporary overvoltages (TOV) occur more frequently, due to more frequent switching operations. Therefore, detailed monitoring/statistics are recommended.
- Partial discharges may occur more frequently and will be maintained more frequently if overlaying TOV (e.g. switching OV, earth faults) are adding on increased level of actual (temporary) operating voltage.

### **HV and MV switchgear:**

- The highest rated voltage of equipment may cover the extended operating voltage demands. However, the overall isolation coordination shall be carefully re-examined for the installed base and also for projecting new MV and LV switchgear taking into account the occurring transformer ratios HV/MV and MV/LV. This applies especially for the extended voltage ranges >1.15 p.u.
- For HV and MV circuit breakers i.e. switching performance capability must be re-examined with special emphasis on demanding switching operations e.g. switching off capacitor banks or back-to-back switching operation of capacitor banks. In case of doubt, equipment with the next higher rated voltage should be taken into account.

### **Transformers:**

- **The Network Code interferes with existing product standards:** Existing standards must be reflected for the application of the network code. Other terminology and/or parameters and definitions need to be reflected on product specifications and tests especially for installed base in order to avoid excessive cost.

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<sup>1</sup> T&D Europe ([www.tdeurope.eu](http://www.tdeurope.eu)) is the European Association of the Electricity Transmission & Distribution Equipment and Services Industry, which members are the European National Associations representing the interests of the electricity transmission and distribution equipments manufacturing and derived solutions. The companies represented by T&D Europe account for a production worth over € 25 billion EUR, and employ over 200,000 people in Europe.

- **The Network Code results in details of implementation:** The network code defines the basic requirements; but details need to be further developed through the standardization process open to all stakeholders
- **Flexibility and future proof concept:** The network code is developed to minimize the security risk for the European Synchronous Areas, but Automatic frequency disconnection settings need to be reflected on specifications and existing standards with focus on installed base.

### Protection relays

The network code leads to expanded voltage and frequency settings. This may affect in some cases the installed base of protection relays in former electromechanical or static technology.

### Storage

It has to be clarified if it's correct to deal with storage as a demand. Differentiate between controlled and uncontrolled demand units. Requirements shall only set up for controlled demand units.

T&D Europe objects to the definition that a storage system is generally defined as a demand unit. Storage has to be defined as having 2 roles: 1. a demand system in case of power consumption and 2. as a generator in case of power in-feed to the network. Should be accepted same as pump storage power plant.